

with this: they wish to make crooked saw-cuts as well as straight, for the production of ships' timbers; and they have attained their object. About three years ago, there was a legal contest between two inventors, an Englishman and an American, as to their respective rights to new timber-sawing mechanism: into the merits of the litigated question we do not enter; but it is interesting to note that both inventors had produced machines for making either straight or crooked saw-cuts in timber. Mr. Cochran's machine (one of those here exhibited) is a very complicated piece of apparatus: the fixing of a log of timber, the slow movement of the log as the cutting proceeds, and the reciprocating movement of the saws, are all effectively managed. But when the log is to be cut in a tortuous form, for ship-building and other purposes, there is provision for giving a rotatory or partially rotatory motion to the log; and, what is still more remarkable, the saw is made to shift or oscillate so as to cut successively in many different directions: nay, there may even be two saws working at once, the one cutting straight and the other curvilinear. This machine has been worked at Woolwich Dockyard; and we believe it is now undergoing that ordeal of lengthened trial which must necessarily precede any general adoption of such contrivances. It is said, that at the Earl of Howe's first meeting, as President of the Royal Society, a model of this timber-cutting machine was exhibited; and that the Prince Consort cut a miniature ship's timber with it to test its action:—a pleasant apprenticeship this, for one who was destined to be the founder of the greatest industrial jubilee the world has ever witnessed.

Not only is the giant power of steam now applied to the fashioning of wood for the purposes of the carpenter and the joiner, but there are establishments expressly appropriated to this purpose. These are much more modern than steam saw-mills, and contain machinery of a more complicated kind: most of them, however, comprise machine-worked saws as well as planing and moulding machines. Until about twelve or fourteen years ago, the few planing machines in use were wrought by hand, but the all-embracing steam-engine is now applied with much better effect. The same movement sets to work the saws for cutting boards to the proper width, adzes for bringing the board to regular thickness, and planes for smoothing the surface; and it is said (and may readily be believed) that the boards so prepared are flatter and smoother than those planed by hand. In the moulding-mills, as they are called, the operations are of greater nicety, for the wood is to be fashioned to those architectural forms which constitute mouldings, such as are used by carpenters, joiners, and others. The cutting tools are small pieces of steel, fashioned to the shape of the moulding, and fixed to a rapidly-revolving axis: the wood is brought to the action of these cutters, and a perfect shower of little fragments of wood is sent that tells us what is going on, for the revolution is too rapid to allow the movement and action of the cutters to be traced.

The great lesson-book in Hyde Park affords us teachings on this subject as on others. There are five different kinds of wood-working machines exhibited by Mr. Furness. One is a morticing machine, intended to cut holes for the tenon-and-mortice mode of joining timbers. There is a second morticing machine, moved by the foot instead of by steam power, and fitted to cut holes from an eighth of an inch to two inches in width. A third is a mortising machine, for cutting those projections which constitute tenons: each tenon is completely shaped at one operation. A fourth is a planing machine, for giving a flat and smooth surface to planks or any other pieces of wood: the powers of this machine are so easily adjustable as to be easily applied to timbers of all dimensions—from four to fifty feet in length, from eight to forty inches in width, and from a quarter of an inch to thirty inches in thickness. A fifth is a moulding machine, to impart to wood the architectural form of mouldings, which are usually wrought

by the carpenter with the aid of hand-planes: it may be applied to the making of eash-bars, or the cutting of grooves, or the forming of any hollows or protuberances which are to extend uniformly along the grain of the wood; and it is applicable either to hard or soft woods, with a slight adjustment.

Besides various English machines of this kind, there is a French machine, called the "Ménisierie Mécanique," or Mechanical Joiner, which both planes and forms mouldings in wood, by plane-irons fixed to an axis which revolves a thousand times in a minute.

NOTES IN THE PROVINCES.

Dover.—It has been resolved at a common hall in the new Sessions-house to promote the restoration of the interior of the *Maison Dieu* Hall, according to a plan by Mr. Ambrose Poynter, architect, by which, says the *Dover Chronicle*, its style will be preserved, but transformed from its ecclesiastical to a civil character: cost about 2,000*l.* A subscription list has been opened for the realisation of the requisite means.

Winchester.—As our readers may remember, a rate for a museum and public library has been fixed here, and a museum appropriated. The library is still small, but additions to it are being continually made, and were a proper depository established, and visible to donors who could thus see that their books would be properly placed for the public behoof, there is not a doubt but that the library would rapidly grow to respectable dimensions. We are not a little surprised, however, to find, on the authority of the *Hampshire Independent*, that the sole accommodation both for books and readers, in the museum premises, consists in "a small back room, situate in the top story, lighted by a small window, without, we believe, a fire-place, and in which the library never can be available for general use." This is not the way to form such a library. Spare space already fitted up is what will tempt donors and subscribers to increase it.

Wroughton.—The ancient church of Wroughton, which was in a dangerously dilapidated state, has been repaired and reopened. Two clumsy galleries have been removed, and the church reaped in oak. Stalls of same material have been raised in the chancel. The repairs include the rebuilding of south aisle and clerestory, with new windows to the former, the whole of the wall of north nave, four new roofs, with various other restorations, the cost of which has exceeded 2,140*l.*, to defray which the sum of 1,799*l.* has been collected, leaving a deficit of 341*l.*, for which the Rev. H. Light, the vicar, is responsible. This gentleman gave a whole year's income from his vicarage (150*l.*) for the purpose of assisting to defray the expenses, and his lady gave 366*l.*, being the proceeds of 150 portraits, painted by herself for the work during two years past: most commendable exertions, which merit note as an example to others.

Penally, near Tenby.—The parish church of Penally, near Tenby, which has recently undergone a complete restoration, under the superintendence of Mr. Brandon, was reopened on Wednesday, Oct. 1. The church is very ancient,—cruciform in plan, with the square, vaulted roof, and plain square tower—characteristic of the Pembroke-shire churches. It had long been in a very dilapidated condition. Happily much has now been done towards restoring it to a state of comeliness and order. The old windows, which had fixed wooden sashes and were of a very debased character, have been replaced by Early English windows. The coating of whitewash and plaster which covered the stone vaulting of the roof was removed, with the intention of leaving the stonework visible; but in consequence of the rude nature of the material employed, and the irregularity of the masonry, it was found necessary to replaster the roof. The font, a very ancient one, has been cleaned and removed to its proper place, at the entrance of the church, and the unsightly and inconvenient square pews replaced by open seats of stained wood-work. The new east window is the most ornamental feature in the church: it is filled in with

stained glass, the work of Wales, of New-castle. The window is said to be a very beautiful one, combining richness of colouring with correctness of outline. A brass placed on the north side of it records, "that it was erected as a memorial of Sarah, wife of the Rev. J. Hughes, by surviving friends." The whole cost of the restoration has considerably exceeded 600*l.* Messrs. D. and C. Jones, of Bradford, Wilts, were employed as the builders.

Lichfield.—St. James's Church, Ogley Hay, was consecrated on Wednesday week. It is a small cruciform structure, in the Early Decorated style, crowned by a small spire, and will seat nearly 400 persons, all the sittings free.

Lincoln.—At the recent half-yearly meeting of the gas company, says the *Lincolnshire Chronicle*, "the usual 20 per cent. dividend was declared, and the affairs were found to be in so very satisfactory a state that there is no doubt the price of gas will very shortly be reduced to 5*s.* per 1,000 feet."

Grimsby.—The docks are now hastening to completion, and the electric telegraph in connection with them will soon be in operation from sea to sea, i. e., from east to west.

Liverpool.—The town council have decided that Mr. Willis, the builder of the great organ in the Exhibition, shall be entrusted with the building of the organ for St. George's Hall. This organ is intended to be larger than any other in the world,—about twice the size of the famous one at Haarlem, and with at least 120 stops.—Another fatal accident occurred on Monday week much in the same way as that by which a life was recently lost. In the present instance the unfortunate victim was second clerk of the works, Mr. William Hawley. His foot, it is said, slipped while crossing a plank, and he was precipitated through an unfinished floor to a depth of 27 feet, and so much injured that he died after his removal to an hospital. No charge of carelessness is made against any one in the present instance: the flooring was unfinished, and the plank lay across the beams apparently in the usual way.

Harrington.—St. Alban's (R.C.) Chapel was reopened on 12th inst. after being decorated and repaired. The walls on each side of the altar are diapered in gold, with a pattern of I.H.S. enclosed within a border of blue crosses, on a red ground. The large surface of the wall extending from the panels to the arch over the sanctuary is decorated with a cross upon a green ground, with gilded centre. The panelled roof of the large arch which encloses the sanctuary is studded with gold stars on an ultra-marine ground, and each of the numerous mouldings on the face of the arch has a diversified pattern. The centre of the deep cornice projecting from the spring of the arch to the extremity of the walls on each side of the sanctuary is filled with scroll work, and the mouldings of the cornices are adorned with patterns on variegated grounds. The altar is covered with a gold *fleur-de-lis* on an ultra-marine ground, and the columns and panels encircling the altar are also decorated. On the surface of the pedestal which supports the altar columns, a tiny figure the centre of a group of some designs executed in gold on a vermilion ground, and the whole is bordered by a quatrefoil. In the niche above each vestry door are statues of the Virgin and St. Joseph, and the back ground is ultra-marine, ornamented with gilded stars. The numerous pilasters, with the capitals, mouldings, and bases, are painted and decorated. The whole of the painting and decorations were designed and executed by Mr. John Walker, of Brown-edge, assisted by Mr. William Crook, of Preston. The tabernacle was designed and executed by them. The painting of the benches and pulpit, &c., was executed under the superintendence of Mr. John Williams, a member of the congregation.

Glasgow.—Baron Marochetti, according to the *Glasgow Herald*, has been selected for the execution of the proposed equestrian statue of her Majesty at Glasgow.

Forfar.—A monument to the memory of the late Sir Robert Peel has been placed in the new burial-ground at Forfar.